AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of improving at least one gain bandwidth path, comprising:

monitoring at least one signal being transmitted; and

performing a gain/bandwidth control process based upon said monitoring of said signal, performing said gain/bandwidth control process comprises controlling a gain of a portion of said signal based upon determining a bandwidth requirement of a signal path associated with said portion of said signal.

2. (Original) The method of claim 1, wherein monitoring at least one signal being transmitted further comprises determining whether said signal is a data signal.

3. (Original) The method of claim 1, wherein monitoring at least one signal being transmitted further comprises determining whether said signal is a voice signal.

4. (Original) The method of claim 1, wherein monitoring at least one signal being transmitted further comprises determining whether said signal is a DC signal.

5. (Original) The method of claim 1, wherein monitoring at least one signal being transmitted further comprises determining whether said signal is a ringing signal.

6. (Original) The method of claim 1, wherein performing a gain/bandwidth control process further comprises:

determining an approximate length of at least one signal path carrying said signal;

determining a bandwidth requirement of said signal path;

determining a gain factor to be applied upon said signal path;

separating said signal path in response to at least one of said approximate length of said signal path, said bandwidth requirement of said signal path, and said gain factor to be applied upon said signal path; and

applying an appropriate gain within said bandwidth upon said separated signal path.

7. (Original) The method of claim 6, further comprising summing said signal path in response to applying said gain upon said signal path to at least one other signal path.

8. (Previously Amended) The method of claim 6, wherein applying an appropriate gain within said bandwidth upon said separated signal path further comprises applying a gain of about 10 in a bandwidth of about 500 KiloHertz to about 5 MegaHertz in response to a determination that said signal path is a data signal path.

9. (Previously Amended) The method of claim 6, wherein applying an appropriate gain within said bandwidth upon said separated signal path further comprises applying a gain of about 3 in a bandwidth of about 200 Hertz to about 20 KiloHertz in response to a determination that said signal path is a voice signal path.

10. (Previously Amended) The method of claim 6, wherein applying an appropriate gain within said bandwidth upon said separated signal path further comprises

applying a gain of about 140 in a bandwidth of about 100 Hertz to about 200 Hertz in response to a determination that said signal path is a DC signal path.

11. (Previously Amended) The method of claim 6, wherein applying an appropriate gain within said bandwidth upon said separated signal path further comprises applying a gain of about 140 in a bandwidth of about 100 Hertz to about 200 Hertz in response to a determination that said signal path is a ringing signal path.

12. (Previously Amended) An apparatus for improving at least one gain bandwidth path, comprising:

a first circuit portion capable of driving a signal onto a subscriber line; and

a second circuit portion electrically coupled with said first circuit portion, wherein said second circuit portion is capable of separating a plurality of signal paths based upon at least one characteristic of said signal path for applying a corresponding gain upon said signal path.

13. (Original) The apparatus of claim 12, wherein said first circuit portion further comprises at least one differential signal driver is capable of driving at least one of a voice signal, a data signal, a DC signal, and a ringing signal onto said subscriber line.

14. (Original) The apparatus of claim 12, wherein said subscriber line is a medium capable of transmitting signals.

15. (Original) The apparatus of claim 14, wherein said subscriber line is comprised of a subscriber loop.

16. (Previously Amended) The apparatus of claim 12, wherein said second circuit portion is a gain/bandwidth controller.

17. (Original) The apparatus of claim 16, wherein said gain/bandwidth controller further comprises:

a signal path separator capable of separating a signal path based upon at least one of said bandwidth requirement, signal accuracy requirement, and a signal path characteristic;

a plurality of gain/bandwidth circuits coupled with said signal path separator, said gain/bandwidth circuit being capable of applying an appropriate gain based upon said separation of said signal paths; and

a summer coupled with said plurality of gain/bandwidth circuits, said summer being capable of summing a plurality of signals from said plurality of gain/bandwidth circuits and producing an output signal.

18. (Previously Amended) A system for supporting voice band and data band communications, comprising:

a sum block capable of receiving at least one of a voice signal, a DC signal, a ringing signal, and a data signal;

at least one differential signal driver coupled to said sum block, wherein said differential signal drivers are capable of driving at least one of said voice signal, a DC signal, a ringing signal, and said data signal onto a subscriber line; and

a gain/bandwidth controller coupled with said sum block and said differential signal driver, wherein said gain/bandwidth controller is capable of separating at least one signal path based upon a characteristic of said signal path and applying an appropriate gain upon a signal on said subscriber line.

19. (Original) The system of claim 18, wherein said sum block is capable of receiving at least one of a:

DC ring signal;

a metering signal;

a voice signal; and

a data signal.

20. (Original) The system of claim 19, wherein said sum block is capable of summing two or more of said DC ring signal, said metering signal, said voice signal, and said data signal.

21. (Original) The system of claim 19, wherein said subscriber line is a medium capable of transmitting signals.

22. (Original) The system of claim 19, wherein said subscriber line is comprised of a subscriber loop.

23. (Original) The system of claim 18, wherein said gain/bandwidth controller further comprises:

a signal path separator capable of separating a signal path based upon at least one of said bandwidth requirement, signal accuracy requirement, and a signal path characteristic;

a plurality of gain/bandwidth circuits coupled with said signal path separator, said gain/bandwidth circuit being capable of applying an appropriate gain based upon said separation of said signal paths; and

a summer coupled with said plurality of gain/bandwidth circuits, said summer being capable of summing a plurality of signals from said plurality of gain/bandwidth circuits and producing an output signal.

24. (Currently Amended) An apparatus for improving at least one gain bandwidth path, comprising:

means for monitoring at least one signal being transmitted; and

means for performing a gain/bandwidth control process based upon said monitoring of said signal, said means for performing said gain/bandwidth control process comprises means for controlling a gain of a portion of said signal based upon determining a bandwidth requirement of a signal path associated with said portion of said signal.

25. (Previously Added) A method of improving at least one gain bandwidth path, comprising:

monitoring at least one signal being transmitted;

determining an approximate length of at least one signal path carrying said signal;

determining a bandwidth requirement of said signal path;

determining a gain factor to be applied upon said signal path;

separating said signal path in response to at least one of said approximate length of said signal path, said bandwidth requirement of said signal path, and said gain factor to be applied upon said signal path; and

applying an appropriate gain within said bandwidth upon said separated signal path.